Amendment of Application for a Scientific Take Permit with NOAA Fisheries
Section 10 #1335

Filed by: Aquatic Riparian Effectiveness Monitoring Program (AREMP) for the Northwest Forest Plan

Amendments in bold.

A. Title:
Application for Permit for Scientific Purposes under the Endangered Species Act of 1973.

B. Species/ESU:
See attached sheet.

C. Date:
26 January 2006

D. **Applicant Identity:**
   a. Ted Sedell, Field Coordinator
   b. USDA Forest Service
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E. Information on Personnel, Cooperators and Sponsors.

1. Principal Investigators and Field Supervisors

   Ted Sedell – Field Coordinator & Supervisor
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   Chris Moyer – Fish Biologist, Principle Investigator
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   Kris Fausti – Field Coordinator & Supervisor
   (541) 750-7081, kfausti@fs.fed.us

2. Field personnel are not hired or known at this time.

3. Project Funding Provided By: United States Forest Service (Region 6), The Bureau of Land Management (Northwest Region), Environmental Protection Agency (Western), and NOAA Fisheries (Northwest Region).

4. Not Applicable

5. Not Applicable

6. Not Applicable

F. Project Description, Purpose and Significance

1. This project is designed to monitor land use actions on all federal lands covered by the Northwest Forest Plan (NWFP). This project will tie fish and amphibian species composition data to physical habitat, water chemistry, macroinvertebrate, periphyton, wood and substrate data. This data will be used to assess the condition of a watershed through a Decision Support Model (DSM). Local experts will help in determining limiting factors that may have more influence on watershed health for the DSM. This research will help define the condition of watersheds under the Northwest Forest Plan and help identify limiting factors. The Aquatic Riparian Effectiveness Monitoring Program (AREMP) document by Reeves et. al (2000) has more detailed information on the specific framework for this monitoring program.

2. The proposed monitoring project is in direct response to directive in the Northwest Forest Plan (USDA-USDI 1994).

3. The project is part of a large scale research management plan (Reeves et al. 2000, Mulder et al. 1999).

4. The data will be used to assess watershed condition within the area of the Northwest Forest Plan. Users of this information will primarily be the AREMP team with Steve Lanigan as the module lead. Portions of this study are similar and may be comparable to the EPA EMAP study (Kaufmann et al. 1999), Forest Service Region 6 stream inventory (USDA 1999) and Oregon Department of Fish and Wildlife (ODFW) habitat inventory (Moore et al. 1999). Individual National Forest and BLM districts may also use this data for their land use planning.

5. Listed species would only be used for this project if they happen to occur in our randomly selected 6th field watersheds. The use of them would help to characterize the selected watershed and used in a comparison of other watersheds that may have either healthy populations or populations that have gone extinct of the same species. If environmental conditions do not allow for the sampling to be done, we may wait until conditions improve for sampling to occur or cease sampling aquatic vertebrates altogether in a given sample site.

G. Project Methodology

1. **The Aquatic and Riparian Effectiveness Monitoring Program underwent a status review in 2005 and has been established as an ongoing long-term monitoring project. No end date available.**

2. Fish and aquatic amphibian species will be collected using a programmable output backpack electrofisher manufactured by Smith-Root Co. (LR-24 & 12POW). Collection will be for identification, measurement and release in the field. A single pass technique will be employed to get species composition. Individuals captured will be measured for length frequency analysis. Data recorded at each site will include: Electrofisher settings, crew members, a GPS site location, effort in seconds, conductivity, water temperature, species, number of individuals captured, and displacement and length of randomly selected individuals.

   Sample sites are determined by randomly selecting 6th field HUC watersheds within each Northwest Forest Plan province. Within these sub-watersheds, 4 to 10 random sites will be sampled. At each site, reach length is determined by the average bankfull stream width. Sites are 20 stream widths long with a minimum length of 160 meters to a maximum of 480 meters in length. Eleven equally spaced transects are placed along this reach. In order to obtain complete species lists within each watershed we will start by sampling the lowest and highest site in the watershed and then randomly select sites after this. A species richness curve will be calculated after each site is sampled and if three consecutive sites are sampled without finding new species sampling will stop. Fish will be held for the length of time it takes to sample between transects in each sample site. If electrofishing is not permitted in these areas we request to be able to electrofish in riffle habitat only. This will avoid concentrations of listed salmonids and still allow us to collect non-game and aquatic amphibians for identification.

   Attached to the application is a list of 4th and 6th field watersheds to be sampled in the 2006 summer field season for each ESU. This list will be continually updated each year as we acquire additional randomly selected watersheds.

3. NMFS guidelines for electrofishing will be followed when listed fish are thought to be present. Electrofishing will be performed by experienced personnel or under their direct supervision. Streams above 18 °C and below 4 °C will not be sampled. Streams that have less than 0.3 meters of visibility will not be sampled. A conductivity and temperature reading will be taken before electrofishing is started and the electrofishing unit will be adjusted accordingly. The unit will be first set at lower voltage and straight DC current settings and increased with the possible use of pulsed DC current if straight DC is found to not be effective. The correct setting will be found that can capture fish effectively and minimize injury. Electrofishing will not be performed if eggs or alevin are suspected to be present in gravels and/or if adult spawners may be present in the system. We will take all opportunities to coordinate our sampling efforts with state fish and wildlife agencies and federal agencies to avoid duplicate sampling whenever possible.

H. Description and Estimates of Take

1. **Take estimates for ESUs and 6th field sub-watersheds to be sampled are provided on the attached spreadsheet**.

2. Potential sampling locations may occur on any of the 6th field watersheds listed in the attached tables. Sampling efforts will occur on federal lands between May 1st and September 30th of 2006.

3. Potential sampling locations of 6th field watersheds are listed in the attached summary tables. Sampling may take place in areas of specific ESU's where distribution and presence of these listed fish may not be mapped or known.

4. See Attached Watershed List Tables

5. Estimates of potential fish captured and estimated mortality will be included in the attached summary tables listed in section H4 of this document. All mortalities will be unintentional (indirect mortalities). Electrofishing can cause mortality for several different reasons. All precautions and procedures listed in section G3 of this document will be followed to reduce the number of potential mortalities that could occur.

6. Our current sampling strategy may randomly sample 10% of the habitat located in a 6th field watershed. Based on this we would not expect to sample more than 10% of a listed population in any given watershed. Of the fish sampled we would not have more than 4 % mortality. At the end of the sampling season we will be able to report exact numbers of listed fish sampled and associated mortalities.

I. Transportation of Listed Species

1. Not Applicable

2. Not Applicable

3. Not Applicable

J. Cooperative Breeding Program

Not Applicable

K. Previous or Concurrent Activities Involving Listed Species

1. Permit # TE041189-4 for bull trout *Salvilinus confluentus* with U.S. Fish and Wildlife Service for Oregon and Washington. Renewed for 5 years and amended for 2006.
2. Section 10 permit for SONCC Coho with the PSW Region NOAA Fisheries in California pending.
3. Section 4(d) permit for California Coast Chinook and Central California Coast Steelhead pending.

L. Certification

"I hereby certify the foregoing information is complete, true and correct to the best of my knowledge and belief. I understand this information is submitted for the purpose of obtaining a permit under the Endangered Species Act of 1973 (ESA) and regulations promulgated thereunder, and that any false statement may subject me to the criminal penalties of 18 U.S.C. 1001, or to penalties under the ESA."

Signature Date

Ted Sedell, Field Coordinator
AREMP, USDA Forest Service

ESU	Life Stage	Origin	Take Activity Category	Maximum Take	Indirect Mortality
UCR Steelhead	Juvenile	Naturally Produced	Capture, Handle, Release	515	15/515
UCR Steelhead	Juvenile	Hatchery Produced	Capture, Handle, Release	306	6/306
LCR Steelhead	Juvenile	Naturally Produced	Capture, Handle, Release	515	15/515
MCR Steelhead	Juvenile	Naturally Produced	Capture, Handle, Release	515	15/515
UWR Steelhead	Juvenile	Naturally Produced	Capture, Handle, Release	306	6/306
CR Chum	Juvenile	Naturally Produced	Capture, Handle, Release	5	0
HCS Chum	Juvenile	Naturally Produced	Capture, Handle, Release	12	2/12
HCS Chum	**Juvenile**	**Hatchery Produced**	**Capture, Handle, Release**	**12**	**2/12**
PS Chinook	Juvenile	Naturally Produced	Capture, Handle, Release	930	30/930
PS Chinook	Juvenile	Hatchery Produced	Capture, Handle, Release	930	30/930
LCR Chinook	Juvenile	Naturally Produced	Capture, Handle, Release	515	15/515
LCR Chinook	**Juvenile**	**Hatchery Produced**	**Capture, Handle, Release**	**92**	**2/92**
UCR Chinook	Juvenile	Naturally Produced	Capture, Handle, Release	309	9/309
UCR Chinook	Juvenile	Hatchery Produced	Capture, Handle, Release	92	2/92
UWR Chinook	Juvenile	Naturally Produced	Capture, Handle, Release	306	6/306
UWR Chinook	**Juvenile**	**Hatchery Produced**	**Capture, Handle, Release**	**92**	**2/92**
LCR Coho	**Juvenile**	**Naturally Produced**	**Capture, Handle, Release**	**306**	**6/306**
LCR Coho	**Juvenile**	**Hatchery Produced**	**Capture, Handle, Release**	**92**	**2/92**
SONCC Coho	Juvenile	Naturally Produced	Capture, Handle, Release	515	15/515
SONCC Coho	**Juvenile**	**Hatchery Produced**	**Capture, Handle, Release**	**92**	**2/92**
OR Coast Coho	Juvenile	Naturally Produced	Capture, Handle, Release	509	10/509
OR Coast Coho	**Juvenile**	**Hatchery Produced**	**Capture, Handle, Release**	**92**	**2/92**

State	6th Field HUC	6th Field Sub-watershed Stream Systems	Basin	Sub-Basin	County
OR	170703060901	UPPER BADGER CREEK	DESCHUTES	LOWER DESCHUTES	Hood River/Wasco
OR	170900050107	BOULDER CREEK	WILLAMETTE	NORTH SANTIAM	Linn/Marion
OR	170900110201	CUB CREEK	WILLAMETTE	LOWER WILLAMETTE	Marion/Clackamas
OR	171003020403	DREW CREEK	SOUTHERN OREGON COASTAL	SOUTH UMPQUA	Douglas
OR	171003080304	EVANS CREEK	SOUTHERN OREGON COASTAL	MIDDLE ROGUE	Jackson
OR	170900050503	GOLD CREEK	WILLAMETTE	NORTH SANTIAM	Marion
OR	171003090107	LOWER CARBERRY	SOUTHERN OREGON COASTAL	APPLEGATE	Jackson
OR	171002060602	LOWER INDIAN CREEK	NORTHERN OREGON COASTAL	SIUSLAW	Lane
OR	170900010303	LOWER SALT CREEK	WILLAMETTE	MIDDLE FORK WILLAMETTE	Lane
OR	171002030204	NESTUCCA RIVER/ NIAGARA CREEK	NORTHERN OREGON COASTAL	WILSON/TRASK/NESTUCCA	Tillamook/Yamhill
OR	171003070803	UPPER SOUTH FORK LITTLE BUTTE CREEK	SOUTHERN OREGON COASTAL	UPPER ROGUE	Jackson/Klamath
OR	170900020201	TABLE MOUNTAIN	WILLAMETTE	COAST FORK WILLAMETTE	Lane/Douglas
OR	171002060301	UPPER WILDCAT CREEK	NORTHERN OREGON COASTAL	SIUSLAW	Lane
OR	171003110304	LOWER SUCKER CREEK	SOUTHERN OREGON COASTAL	ILLINOIS	Josephine
OR	170900020304	MIDDLE UPPER COAST FORK WILLAMETTE RIVER	WILLAMETTE	COAST FORK WILLAMETTE	Lane
OR	171003020203	SQUAW	SOUTHERN OREGON COASTAL	SOUTH UMPQUA	Douglas
OR	171003070802	LOWER NORTH FORK LITTLE BUTTE CREEK	SOUTHERN OREGON COASTAL	UPPER ROGUE	Jackson
OR	170900040107	UPPER WHITE BRANCH	WILLAMETTE	MCKENZIE	Lane/Linn
OR	170900050203	HUMBUG CREEK	WILLAMETTE	NORTH SANTIAM	Marion
OR	170703020204	CRESCENT LAKE	DESCHUTES	UPPER DESCHUTES	Klamath
OR	171002060501	UPPER DEADWOOD CREEK	NORTHERN OREGON COASTAL	SIUSLAW	Lane
OR	170900110304	HIGH ROCK CREEK	WILLAMETTE	LOWER WILLAMETTE	Clackamas
OR	170900060604	FALLS CREEK	WILLAMETTE	SOUTH SANTIAM	Linn
OR	171003070403	WILLOW CREEK	SOUTHERN OREGON	UPPER ROGUE	Jackson

OR	171003100405	KELSEY CREEK	COASTAL SOUTHERN OREGON COASTAL	LOWER ROGUE	Josephine/Douglas/Curry
OR	170900050202	NORTH FORK BREITENBUSH RIVER	WILLAMETTE	NORTH SANTIAM	Marion/Clackamas
OR	171003010103	DIAMOND LAKE EAST	SOUTHERN OREGON COASTAL	NORTH UMPQUA	Douglas
OR	171003020803	ELK VALLEY/BOBBY	SOUTHERN OREGON COASTAL	SOUTH UMPQUA	Douglas
OR	171003010204	THIRSTY CREEK	SOUTHERN OREGON COASTAL	NORTH UMPQUA	Douglas
OR	170900110101	UPPER HOT SPRINGS FORK COLLAWASH	WILLAMETTE	LOWER WILLAMETTE	Clackamas/Marion
OR	170900110601	UPPER CLEAR CREEK	WILLAMETTE	LOWER WILLAMETTE	Clackamas
OR	171003030401	PARADISE CREEK	SOUTHERN OREGON COASTAL	UMPQUA	Douglas
OR	171003090302	MIDDLE LITTLE APPLEGATE	SOUTHERN OREGON COASTAL	APPLEGATE	Jackson
OR	170900010701	LOOKOUT POINT RESERVOIR	WILLAMETTE	MIDDLE FORK WILLAMETTE	Lane
OR	171003070504	HAWK CREEK	SOUTHERN OREGON COASTAL	UPPER ROGUE	Jackson
OR	171003120501	UPPER HUNTER	SOUTHERN OREGON COASTAL	CHETCO	Curry
OR	170703020101	CLOVER CREEK	DESCHUTES	UPPER DESCHUTES	Klamath
OR	171003011106	UPPER CAVITT CREEK	SOUTHERN OREGON COASTAL	NORTH UMPQUA	Douglas
OR	171003110303	GRAYBACK CREEK	SOUTHERN OREGON COASTAL	ILLINOIS	Josephine
OR	170703010502	LOWER TUMALO CREEK	DESCHUTES	UPPER DESCHUTES	Deschutes
OR	171003090104	LOWER ELLIOTT	SOUTHERN OREGON COASTAL	APPLEGATE	Siskiyou
WA	171100040104	GLACIER CREEK	PUGET SOUND	NOOKSACK	Whatcom
WA	171100150110	LITTLE NISQUALLY RIVER	PUGET SOUND	NISQUALLY	Lewis
WA	170800020401	UPPER SIOUXON CREEK	LOWER COLUMBIA	LEWIS	Skamania
WA	170200080103	LOWER LOST RIVER	UPPER COLUMBIA	METHOW	Okanogan
WA	171100060201	SUIATTLE RIVER HEADWATERS	PUGET SOUND	SAUK	Snohomish
WA	170200110403	CHUMSTICK CREEK	UPPER COLUMBIA	WENATCHEE	Chelan
WA	171100150101	NISQUALLY HEADWATERS	PUGET SOUND	NISQUALLY	Pierce/Lewis
WA	170800040205	JOHNSON CREEK	LOWER COLUMBIA	UPPER COWLITZ	Lewis
WA	170800020503	COPPER CREEK	LOWER COLUMBIA	LEWIS	Skamania

WA	171100040301	UPPER SOUTH FORK NOOKSACK RIVER	PUGET SOUND	NOOKSACK	Whatcom/Skagit
WA	171100050502	EAST FORK BACON CREEK	PUGET SOUND	UPPER SKAGIT	Whatcom
WA	171001040103	SATSOP RIVER MIDDLE FORK	WASHINGTON COASTAL	LOWER CHEHALIS	Mason
WA	171100060101	SLOAN CREEK	PUGET SOUND	SAUK	Snohomish
WA	170200080204	CEDAR CREEK	UPPER COLUMBIA	METHOW	Okanogan
WA	170701051004	MIDDLE LITTLE WHITE SALMON RIVER	MIDDLE COLUMBIA	MIDDLE COLUMBIA/HOOD	Skamania
WA	171100090107	LOWER BECKLER RIVER	PUGET SOUND	SKYKOMISH	King/Snohomish
WA	171100090206	LOWER SOUTH FORK SKYKOMISH RIVER	PUGET SOUND	SKYKOMISH	Snohomish/King
WA	171100200302	LOWER GRAY WOLF RIVER	PUGET SOUND	DUNGENESS/ELWHA	Clallum
WA	171100050806	LOWER BAKER RIVER-LAKE SHANNON	PUGET SOUND	UPPER SKAGIT	Skagit/Whatcom
WA	170800020404	COUGAR CREEK	LOWER COLUMBIA	LEWIS	Skamania/Cowlitz
WA	171100140105	UPPER GREENWATER RIVER	PUGET SOUND	PUYALLUP	Pierce
WA	171001010401	NORTH SOL DUC RIVER	WASHINGTON COASTAL	SOLEDUC	Clallum